AMENDMENTS

In the Specification:

On page 26, replace paragraph 0058 with the following paragraph:

[0058] The CPI block is illustrated in Figure 8. The interleaving of the "add" and the "min-select" operations significantly reduces the hardware overhead and results in a highly regular architecture. Note that the CPI block 300 shown in Figure 8 operates first on the most recent observations first (denoted as $r(n+1)$ ~~$r(n+2)$~~ in Figure 7~~-8~~). This is because numerous pairs of possible paths through the trellis differ only in the last (e.g., most recent) incremental error metric. Examining the paths by first considering and selecting paths based on later-in-time samples is referred to herein as time-reverse path selection or time-reverse trellis traversal. This can be seen easily in table 1, where the first two path metrics e_0 and e_1 differ only in the last error term $e_{s0}(n+1)$ versus $e_{s1}(n+1)$. In this case, the better path of the first two paths may be determined by examining only the last branch metrics, $e_{s0}(n+1)$ versus $e_{s1}(n+1)$. And significantly, a total of eight pairs of paths may also be distinguished based on the same comparison of $e_{s2}(n+1)$ versus $e_{s3}(n+1)$: e_0 and e_1, e_8 and e_9, e_{16} and e_{17}, e_{24} and e_{25}, e_{32} and e_{33}, e_{40} and e_{41}, e_{48} and e_{49}, e_{56} and e_{57}. Note that due to the time-reverse implementation, all of the possible path metrics need not be calculated, and in fact are not calculated. That is, numerous paths are eliminated by each set of min-selectors, as described below.